



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,189	11/16/2001	Donald C. Abbott	TI - 32881	7012

23494 7590 11/07/2003

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER

PATEL, ISHWARBHAI B

ART UNIT	PAPER NUMBER
----------	--------------

2827

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/993,189	ABBOTT ET AL.	
	Examiner	Art Unit	
	Ishwar (I. B.) Patel	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on May 19, 2003. These drawings are approved.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, "involving a corrosion resisting agent" is vague. It does not describe the limits and boundary of the claimed invention and is not clear enough to apply a prior art.

The examiner considered the corrosion-resisting agent is a part of the package structure.

Regarding claim 18 and 20, "the electrically insulating component is a package body" is not clear.

A package body can be just a die or chip covered by an encapsulant or a die or a chip on a carrier covered by an encapsulated or die or chip on a carrier as an assembly on another circuit board.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-8, 11-12, 18 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Oshima et al., US Patent No. 6,628,526, hereafter, Oshima.

Regarding claim 1, Oshima discloses an electrical apparatus including at least one electrical device and package structure with electrically insulating component, comprising:

involving a corrosion-resisting agent with said electrically insulating component of said package structure (electronic device 10 with electronic parts 12, a substrate 11 and resin layer 13, figure 1, column 6, line 47-62, the resin with insulating properties and corrosion resistance, column 7, line 12-22).

Regarding claim 8, Oshima discloses an electrical apparatus comprising at least one electrical device (electronic parts 12), and package structure comprising an electrically insulating component; said packaging structure substantially enclosing said at least one electrical device; said electrically insulating component of said packaging

structure including a corrosion resisting agent (electronic device 10 with electronic parts 12, a substrate 11 and resin layer 13, figure 1, column 6, line 47-62, the resin with insulating properties and corrosion resistance, column 7, line 12-22).

Regarding claims 4,5, 11, 12; Oshima further discloses the resin layer with desired properties, including corrosion resistance, column 7, line 12-22.

Regarding claims 6 and 7, Oshima further discloses the electrical device being substantially contained within the resin layer and the substrate, see figure 1-3.

Regarding claims 18 and 20, Oshima further discloses the package body of resin layer and substrate, which contains said electrical device.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 8, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Mine et al., US Patent No. 5,036,024, hereafter, Mine.

Regarding claims 1 and 8, Mine discloses an electrical apparatus comprising at least one electrical device (chip 1), and package structure comprising an electrically insulating component; said packaging structure substantially enclosing said at least one

electrical device; said electrically insulating component of said packaging structure including a corrosion resisting agent (resin shield IC chip 1 placed on tab2 with sealing resin 6, see figure 1, column 2, line 20-30 and column 6, line 64 to 67 and column 7, line 30-35).

Regarding claims 18 and 20, Mine further discloses said electrically insulating component is package body that contain said electrical device (resin sealing covering the device, as applied to claims 1 and 8 above).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2,3,9-10, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima, as applied to claims 1,8, 4-5, 11 and 12 above.

Regarding claim 2,3, 9,10,19 and 21, the embodiment of Oshima discloses a substrate made of ceramic material, however, further states that the substrate 11 is not limited to a ceramic substrate; a glass epoxy substrate etc. may be used with the desired insulating and corrosion properties.

Furthermore, use of epoxy material in the manufacturing of printed circuit package structure is well known in the art, depending upon the specific requirement and the material compatibility.

A person of ordinary skill in the art will use the resin material as disclosed by Oshima depending upon the specific application.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the substrate of Oshima with the substrate made of glass epoxy structure depending upon the specific application to have the desired insulation and corrosion resistance properties.

Further, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

10. Applicant's arguments with respect to claims 1-12 and 18-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inayoshi et al., discloses a resin packaged semiconductor device.


Farquhar et al., discloses an encapsulated integrated circuit chip assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (703) 305 2617. The examiner can normally be reached on M-F (8:30 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308 1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305 3900.

ibp
ibp
10/8/03


EVAN PERT
PRIMARY EXAMINER